

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DHARAPURAM N. SRINATH, SURYA RAGHU, and
GREGORY A. RUSSELL

Appeal 2006-3427
Application 10/016,131
Technology Center 3700

Decided: March 30, 2007

Before TERRY J. OWENS, JENNIFER D. BAHR, and LINDA E. HORNER,
Administrative Patent Judges.

HORNER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1, 2, 4, 6, 7, and 11, all of the claims now pending in the present application.¹ We have jurisdiction under 35 U.S.C. § 6(b).

SUMMARY OF DECISION

We AFFIRM-IN-PART.

THE INVENTION

Appellants' claimed invention relates to a method and apparatus for generating low impact sprays for use, for example, in a rear window washer of a vehicle (Specification 1). In particular, the claimed invention is directed to efficiently distributing liquid in a controlled manner to reduce or minimize ricochet of spray droplets from a surface. Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A fluidic spray system for producing a spray of liquid droplets projected with a momentum such that said liquid droplets do not bounce off of a selected surface, comprising in combination, a fluidic oscillator coupled to a supply of liquid under pressure and a vortex valve immediately upstream of said fluidic oscillator.

¹ Appellants canceled claims 12 and 13 in an after-final amendment filed with the Appellants' Appeal Brief on April 5, 2006. The Examiner entered the amendment and withdrew all outstanding rejections of these canceled claims (Answer 2-3).

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Nekrasov	US 3,614,961	Oct. 26, 1971
Babich	US 4,205,786	Jun. 03, 1980
Raghu	US 6,253,782 B1	Jul. 03, 2001
		(filed Oct. 14, 1999)

The following rejections are before us for review:

1. Claim 11 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Claims 1, 6, 7, and 11 stand rejected under 35 U.S.C. § 102(b) as anticipated by Babich.
3. Claims 1, 2, 4, 6, 7, and 11 stand rejected under 35 U.S.C. § 102(b) as anticipated by Nekrasov.
4. Claim 2 stands rejected under 35 U.S.C. § 102(e) as anticipated by Raghu.

ISSUES

The issues before us are

1. whether Appellants have shown that the Examiner erred in rejecting claim 11 under 35 U.S.C. § 112, second paragraph, for double inclusion of the fluidic spray nozzle;
2. whether Appellants have shown that the Examiner erred in finding that Babich's swirl chamber 1 is the claimed vortex valve (claims 1 and 6), Babich's nozzle 2 and chamber 3 are the claimed fluidic oscillator coupled

to a supply of liquid under pressure (claims 1, 6, and 7), Babich's swirl chamber 1 is upstream of the fluidic oscillator (claims 1 and 6), Babich's swirl chamber 1 has an output which is connected to the input of the fluidic oscillator (claim 6), Babich discloses a non-restrictor pressure reducing means (claim 7), and Babich's swirl chamber 1 is the claimed means for reducing the velocity spray droplets issuing from a fluidic spray nozzle (claim 11);

3. whether Appellants have shown that the Examiner erred in finding that Nekrasov's ultrasonic whistle (inlet 1 and generator 8) is the claimed vortex valve (claims 1, 4, and 6), and Nekrasov's ultrasonic whistle is a non-restrictor pressure reducing means (claims 2, 7, and 11);
4. whether Appellants have shown that Raghu is not prior art; and
5. whether Appellants have shown that the Examiner erred in finding that Raghu's fluid source in Figure 6 or its feed inlet nozzle 11FN in Figure 11A is the claimed non-restrictor pressure reducer (claim 2).

FINDINGS OF FACT

We find the following facts by a preponderance of the evidence:

1. Claim 11 recites "a fluidic spray nozzle connectable to a source of liquid under pressure" and "means for reducing the velocity of spray droplets issuing from said fluidic spray nozzle."

2. The Specification describes, “The fluidic spray nozzle is selected from the following: ... (c) a vortex chamber feeding a fluidic oscillator” (Specification 6:21-25).
3. One of the structures disclosed in the Specification for performing the recited function of “reducing the velocity of spray droplets issuing from said fluidic spray nozzle” is to employ the combination of a vortex valve and a multiple power nozzle-type fluidic oscillator (Specification 3:1 and 12-14).
4. “Means for reducing” of claim 11 is broad enough to cover the combined structure of the vortex valve feeding a fluidic oscillator.
5. As such, claim 11 recites the fluidic spray nozzle twice.
6. Those skilled in the art would not understand what is claimed in claim 11 when the claim is read in light of the specification, because the double recitation of the fluidic spray nozzle leads to ambiguity as to what is covered by the “means for reducing.”
7. Babich discloses a cylindrical swirl chamber 1 adapted to rotate the flow of an atomizing gas, a nozzle 2 connected to the swirl chamber 1 and adapted to enhance the degree of swirling of the gas, resulting in generation of acoustic oscillations, and a chamber 3 adjoining the nozzle 2, for amplification of the oscillations generated in the nozzle 2 (Babich, col. 2, ll. 55-62).
8. Babich discloses that the chamber 3 is essentially a third acoustic cavity after the swirl chamber 1 and the nozzle 2 (Babich, col. 3, ll. 65-67).
9. The Specification does not provide a definition of a vortex valve.

10. The Examiner provided a definition of vortex as “a spiral motion of fluid within a limited area” (Answer 17), and Appellants did not contest this definition.
11. Babich’s swirl chamber 1 is a vortex valve because the atomizing gas flows into chamber 1 tangentially at the circumference of the chamber and causes a swirl, and then the rotated flow exits from the swirl chamber 1 and enters the nozzle 2 (Babich, col. 5, ll. 9-16).
12. A fluid includes a gas.
13. Babich’s nozzle 2 and chamber 3 operate collectively as a fluidic oscillator, because they act upon the atomizing gas to cause acoustic oscillations.
14. Babich’s vortex valve is immediately upstream of Babich’s fluidic oscillator.
15. Babich further discloses a pipe 4 arranged concentrically with the swirl chamber 1, the nozzle 2, and the chamber 3, where the pipe 4 carries the material to be atomized to chamber 3 (Babich, col. 2, ll. 62-66).
16. Thus, Babich’s fluidic oscillator is coupled to a supply of liquid under pressure through the oscillator’s input at pipe 4.
17. The output of Babich’s vortex valve is connected to nozzle 2 and is not connected to the input (pipe 4) of the fluidic oscillator.
18. Babich further discloses that the pipe 4 is closed at the exit end thereof by a blank plug 20, which has a number of holes 21 for discharging the material being atomized, and the cylindrical surface 15 of outlet portion of the pipe 4 also has through holes 22 for discharging the atomized material (Babich, col. 4, ll. 44-50).

19. Babich's pipe 4 is not a non-restrictor pressure reducing means, because the pipe 4 is restricted at its end.
20. Babich discloses that the atomizing device is capable of producing a quality preliminary mixture formation featuring a high fineness ratio of the particles thereof and their even spread across the spray area (Babich, col. 6, ll. 2-4). We find that the resulting fine spray of particles would be capable of sticking to a selected surface such that the atomizing device of Babich is capable of being used to produce a spray of liquid droplets projected with a momentum such that said liquid droplets do not bounce off of a selected surface.
21. Nekrasov discloses an apparatus to generate sonic or ultrasonic oscillations by equally dividing fluid or gas flow into two streams A and B and directing the streams through two identical nozzles 1 arranged at an acute angle to each other such that the streams meet at a deflecting blade 2 mounted fixedly at an acute angle to each of the streams. The nozzles 1 are formed of spiral screens 6 uniformly arranged around a port 7 provided in a generator bottom 8 for the vibrating medium to discharge (Nekrasov, col. 3, l. 49 – col. 4, l. 2).
22. The nozzle 1 and generator bottom 8 of Nekrasov's oscillator do not form a vortex valve, but are instead component parts of the oscillator.
23. The inventive entity of Raghu is different from the inventive entity of the present application, and Appellants have presented no evidence that the disclosure relied on by the Examiner was not an invention "by another."

24. Appellants admit that Raghu discloses a multiple power nozzle fluidic oscillator, as recited in claim 2 (Br. 16, see also Raghu, Figure 11A).
25. The Specification does not define a “non-restrictor pressure reducer,” providing only an example of such a “non-restrictor pressure reducer” as being, optionally, a vortex valve (Specification 5).
26. The Specification describes a drawback of a prior art solution for reducing the velocity by using a restrictor in the nozzle (Specification 2).
27. A person skilled in the art would understand the term “non-restrictor pressure reducer” in light of the Specification to mean an area upstream of the nozzle in which pressure is reduced as compared to the pressure of the inlet fluid and that does not use a restrictor to achieve the reduced pressure.
28. Raghu discloses an inlet area 11FN leading to the power nozzles that is unrestricted, such that the pressure of the fluid as it passes through this area is reduced due to the increased volume of this area upstream of the multiple power nozzle oscillator (Raghu, Figure 11A (area marked 11FN)).

PRINCIPLES OF LAW

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986) (citations omitted).

“[O]ne construing means-plus-function language in a claim must look to the specification and interpret that language in light of the corresponding structure,

material, or acts described therein, and equivalents thereof, to the extent that the specification provides such disclosure.” *In re Donaldson Co.*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 827 (1987).

“[A]rguments that the alleged anticipatory prior art is ‘nonanalogous art’ or ‘teaches away from the invention’ or is not recognized as solving the problem solved by the claimed invention, [are] not ‘germane’ to a rejection under section 102.” *Twin Disc, Inc. v. United States*, 231 USPQ 417, 424 (Cl. Ct. 1986) (quoting *In re Self*, 671 F.2d 1344, 1350-51, 213 USPQ 1, 7 (CCPA 1982)). The question whether a reference “teaches away” from the invention is inapplicable to an anticipation analysis. *Celeritas Techs. Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The prior art was held to anticipate the claims even though it taught away from the claimed invention.)

The claim preamble must be read in the context of the entire claim. The determination of whether preamble recitations are structural limitations or mere statements of purpose or use “can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989). If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed

invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). *See also Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) ("where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation"). Further, "[i]t is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable." *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) (citations omitted) (anticipation rejection affirmed based on the Board's factual finding that the reference dispenser (a spout disclosed as useful for purposes such as dispensing oil from an oil can) would be capable of dispensing popcorn in the manner set forth in appellant's claim 1 (a dispensing top for dispensing popcorn in a specified manner)).

35 U.S.C. § 102(e) states,

(e) the invention was described in — (1) an application for patent, published under section 122(b), *by another* filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent *by another* filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in

the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language (emphasis added).

“Another,” as used in 35 U.S.C. § 102(e), means other than applicants, *In re Land*, 368 F.2d 866, 151 USPQ 621 (CCPA 1966), in other words, a different inventive entity. The inventive entity is different if not all inventors are the same. The fact that the application and reference have one or more inventors in common is immaterial. *Ex parte DesOrmeaux*, 25 USPQ2d 2040 (Bd. Pat. App. & Inter. 1992) (The Board found that a prior art patent to a different inventive entity than the rejected application was “by another” and thus could be used in a 35 U.S.C. 102(e)/103 rejection of the application even though the patent and application had inventors in common).

The existence of an earlier filed U.S. application containing the subject matter claimed in the application being examined indicates that applicant was not the first inventor. Therefore, a U.S. patent by a different inventive entity, whether or not the application shares some inventors in common with the patent, is prima facie evidence that the invention was made “by another” as set forth in 35 U.S.C. § 102(e). *In re Mathews*, 408 F.2d 1393, 161 USPQ 276 (CCPA 1969); *In re Facius*, 408 F.2d 1396, 161 USPQ 294 (CCPA 1969).

When the unclaimed subject matter of a reference is applicant’s own invention, applicant may overcome a prima facie case based on the patent, by showing that the disclosure is a description of applicant’s own previous work. *Mathews*, 408 F.2d 1393, 161 USPQ 276.

ANALYSIS

REJECTION OF CLAIM 11 UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

With regard to claim 11, we agree with the Examiner that the Specification describes the fluidic oscillator as being the combination of a vortex valve feeding a fluidic oscillator (Finding of Fact 2), and the structure described in the Specification “for reducing the velocity of spray droplets issuing from said fluidic spray nozzle” includes a combination of the vortex valve and the fluidic oscillator (Findings of Fact 3, 4). Appellants propose that the recited means corresponds to the flow reverser of Figures 1 and 3 or the vortex valve of Figures 5, 7, and 8 (Br. 8-9). We cannot adopt Appellants’ interpretation of the claim term, however, because it is inconsistent with the description of the structure provided in the Specification. As such, claim 11 includes a double recitation of the fluidic spray nozzle (Finding of Fact 1, 5), thus rendering the claim limitation “means for reducing” ambiguous to those skilled in the art (Finding of Fact 6). Accordingly, we sustain the Examiner’s rejection of claim 11 under 35 U.S.C. § 112, second paragraph.

The subject matter of a claim which is indefinite cannot be compared to the prior art to determine, e.g., differences between the claim and the prior art. Based on the indefiniteness of claim 11, as set forth *supra*, we cannot review the rejection of this claim, because it would require the Board to engage in speculative assumptions as to the meanings of the claim. See *In re Steele*, 305 F.2d 859, 863, 134 USPQ 292, 295 (CCPA 1962); see also *In re Wilson*, 424 F.2d 1382, 1385,

165 USPQ 494, 496 (CCPA 1970). For this same reason, we do not sustain the Examiner's rejections of claim 11 under 35 U.S.C. § 102(b) because they are based on unsupported speculative assumptions as to the scope and meaning of the claim terms. Rather, the claim stands rejected as indefinite under 35 U.S.C. § 112, second paragraph.

REJECTION OF CLAIMS 1, 6, AND 7 UNDER 35 U.S.C. § 102(B) AS
ANTICIPATED BY BABICH

Appellants argue that Babich is non-analogous art (Br. 9). As stated *supra*, the law is clear that the question of whether a reference is non-analogous is inapplicable to an anticipation analysis. As such, we find this argument unavailing.

Babich discloses a fluidic oscillator coupled to a supply of liquid under pressure (Findings of Fact 7, 8, 12, 13, 15, and 16) and a vortex valve immediately upstream of the fluidic oscillator (Findings of Fact 7, 9-11, and 14), as recited in claim 1. The preamble was not given any patentable weight, because the body of claim 1 fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states the purpose or intended use of the invention. Further, we find that the atomizer of Babich is capable of producing a spray of liquid droplets projected with a momentum such that said liquid droplets do not bounce off of a selected surface (Findings of Fact 20). As such, we sustain the Examiner's rejection of claim 1 under 35 U.S.C. § 102(b).

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Babich fails to disclose that the output of the vortex valve is connected to the input of the fluidic oscillator, as recited in claim 6 (Finding of Fact 17). Babich also fails to disclose a non-restrictor pressure reducing means coupling the fluidic oscillator to a source of liquid, as recited in claim 7 (Findings of Fact 18-19). As such, we do not sustain the Examiner's rejection of claims 6 and 7 under 35 U.S.C. § 102(b).

REJECTION OF CLAIMS 1, 2, 4, 6, AND 7 UNDER 35 U.S.C. § 102(B) AS
ANTICIPATED BY NEKRASOV

Appellants argue that Nekrasov is non-analogous art (Br. 14). As stated *supra*, the law is clear that the question of whether a reference is non-analogous is inapplicable to an anticipation analysis. As such, we find this argument unavailing.

Independent claims 1 and 6 recite "a vortex valve immediately upstream of said fluidic oscillator," independent claim 2 recites "a non-restrictor pressure reducer upstream of said fluidic oscillator," and independent claim 7 recites "non-restrictor pressure reducing means coupling said oscillator to a source of liquid." Nekrasov discloses only a sonic or ultrasonic oscillator (Finding of Fact 21). We disagree with the Examiner's findings that Nekrasov discloses a vortex valve or non-restrictor pressure reducer (Finding of Fact 22). As such, we do not sustain the Examiner's rejections of claims 1, 2, 4, 6, and 7.

REJECTION OF CLAIM 2 UNDER 35 U.S.C. § 102(E) AS ANTICIPATED BY
RAGHU

Appellants argue that Raghu is not prior art because the present application and Raghu were copending and are owned by the same entity (Br. 16 (citing 35 U.S.C. § 103(c))). Because the Examiner's rejection of claim 2 was made under 35 U.S.C. § 102(e), the provisions of § 103(c) are not applicable here and do not remove Raghu as prior art against this application. To the extent Appellants were trying to argue that Raghu is not prior art because Raghu is a co-inventor of the present application (Br. 16), this argument is equally unpersuasive because the inventive entity of Raghu differs from the inventive entity of the present application, and Appellants have not provided any evidence to show that the subject matter disclosed in Raghu and relied upon by the Examiner was not made "by another" (Finding of Fact 23). As such, Raghu qualifies as prior art under 35 U.S.C. § 102(e).

Appellants admit that Raghu discloses a multiple power nozzle oscillator, as recited in claim 2 (Finding of Fact 24). Appellants argue that Raghu does not disclose a spray system having an upstream non-restrictor pressure reducer (Br. 16). We disagree, and find that Raghu shows a non-restrictor pressure reducer upstream of the fluidic oscillator (Findings of Fact 25-28). As such, we sustain the Examiner's rejection of claim 2 under 35 U.S.C. § 102(e).

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CONCLUSIONS OF LAW

We conclude:

- 1) Appellants have not shown that the Examiner erred in rejecting claim 11 under 35 U.S.C. § 112, second paragraph, as indefinite.
- 2) Appellants have not shown that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 102(b) as anticipated by Babich.
- 3) The Examiner erred in rejecting claims 6, 7, and 11 under 35 U.S.C. § 102(b) as anticipated by Babich.
- 4) The Examiner erred in rejecting claims 1, 2, 4, 6, 7, and 11 under 35 U.S.C. § 102(b) as anticipated by Nekrasov.
- 5) Appellants have not shown that the Examiner erred in rejecting claim 2 under 35 U.S.C. § 102(e) as anticipated by Raghu.

DECISION

The Examiner's rejection under 35 U.S.C. § 112, second paragraph, of claim 11 is sustained, rejection under 35 U.S.C. § 102 of claim 1 as anticipated by Babich is sustained, rejection of claims 6, 7, and 11 as anticipated by Babich is reversed, rejection of claims 1, 2, 4, 6, 7, and 11 as anticipated by Nekrasov is reversed, and rejection of claim 2 as anticipated by Raghu is sustained.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED-IN-PART

jlb

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